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Species composition of planktonic algae of termokarst lakes of Khatanga River Basin (Krasnoyarsk Region, Russia)

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Abstract

Objective of this study was to determine the species composition of modern planktonic algae in the range of thermokarst lakes of Khatanga River basin (Krasnoyarsk region, Russia). The Khatanga River flows in the North-Siberian lowland in the south-eastern part of the Taimyr Peninsula and flows into the Khatanga Gulf of the Laptev Sea. The river basin has about 112 thousand lakes with a total area of 12 thousand sq.km. Today, M.K. Ammosov North-Eastern Federal University (Yakutsk), A. Wegener Institute for Marine and Polar Research (AWI, Potsdam, Germany), and Kazan Federal University has entered into agreement on cooperation in the sphere of science and higher professional education. In the framework of this agreement, in August 2013, an expedition was conducted to study the limnological characteristics of the lakes in Yakutia in order to reconstruct the Holocene history, during which the algological water samples from and hydro-chemical and morphometric data on 18 lakes were obtained. During the observation period, we found 164 algae taxa belonging to 6 different groups in phytoplankton of the investigated water bodies. The greatest number of taxa were identified in the groups of diatoms and chlorococcaceae. According to the ecological and geographical characteristics, the dominant species in these lakes are cosmopolitan and boreal algae. In relation to halobility, most species are indifferent and oligohalobic, and in terms of pH the most common are the indifferent and alkaliphile + alkalibiontic organisms.

Keywords

Algae, Krasnoyarsk region of Russia, Phytoplankton, The Khatanga River basin, Thermokarst lakes, Yakutia